



**Church for the School
"Santa María del Pilar"**

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synopsis

The church has two plants: underground place is dedicated to a lecturer room provided with a projection cab, and some small rooms devoted to congregations assemblies, study-circles, toilettes, heating and boiler-room. The upper floor is properly the chapel which is preceded by a vestibule giving passage to the sacristy in such a way that priest have to go through the central line of the chapel to reach the presbytery. In front of the vestibule, on the left side, there is an external spar which supports the bells in its middle height, and which is finished by a great cross.

This construction is the most recent one undertaken by this childhood college which is composed by some pavilions—teaching, direction, gymnasium purposes, etc.—and completed with some fields reserved for games of the little children and some sport fields to young fellows.

Under the church, in the ground floor, there is a room reserved to celebrate conferences, with a projection cab, and rooms, to have congregations assemblies and study-circles. In this plant, services are also placed: toilettes, heating and boiler-room.

The chapel is placed in the upper floor, preceded by a vestibule giving passage to the sacristy.

The presbytery consists in a platform, 0.90 meters high, having three stages: high altar, and two lateral ones. The first one has three steps and the two others, only one.

Background the presbytery, there are two wide steps which are reserved for the seats of the religious, situated along the walls.

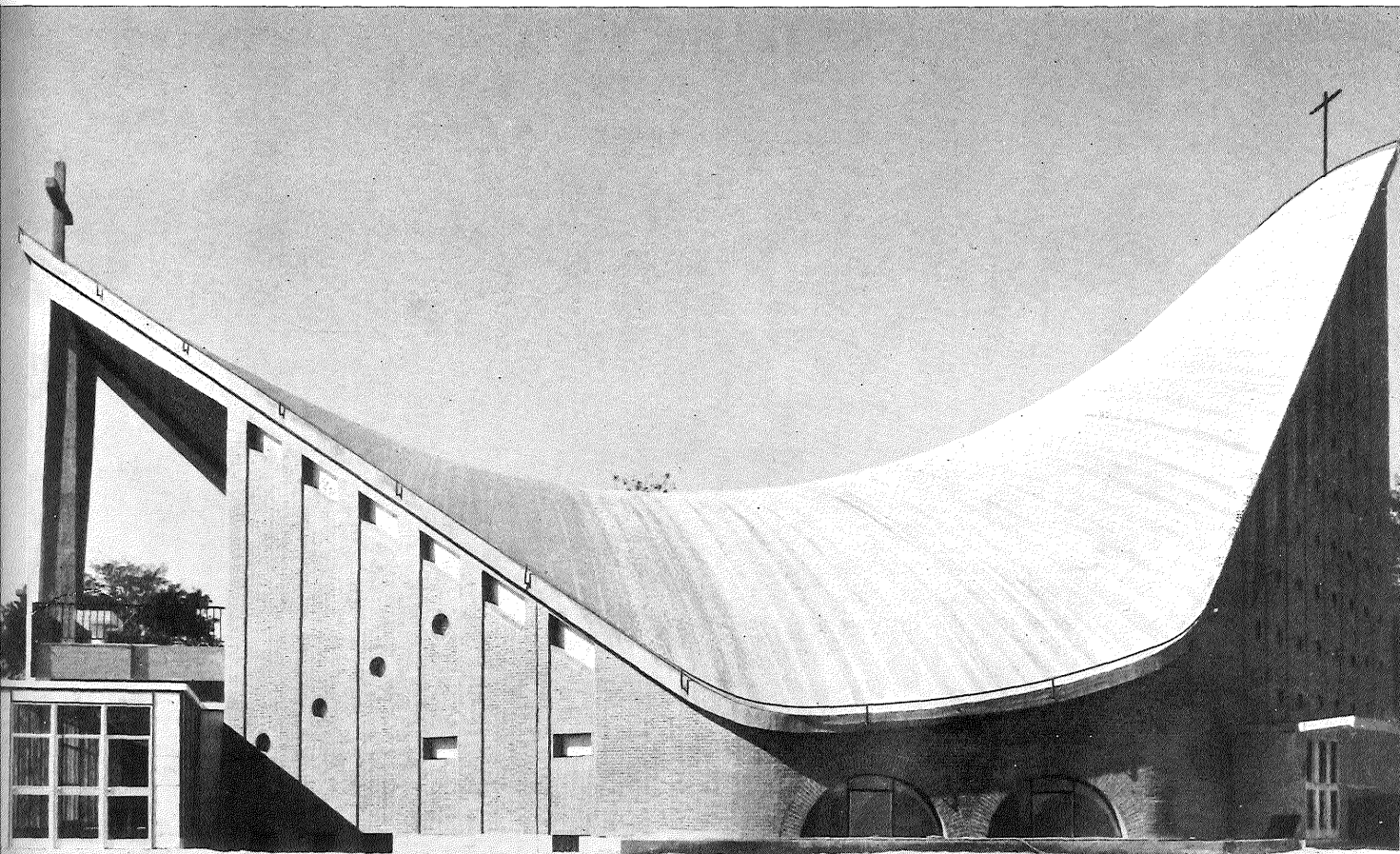
The central altar is placed in the middle of its platform; behind the altar there is a great crucifix made by the sculptor Vicente Rodilla; and all the rear part of the chapel is a glass case by Santiago Padrós made with thick glass and reinforced concrete.

On the two sides of the high stoop which reach to the presbytery, there are two simetrical places to support the ambones.

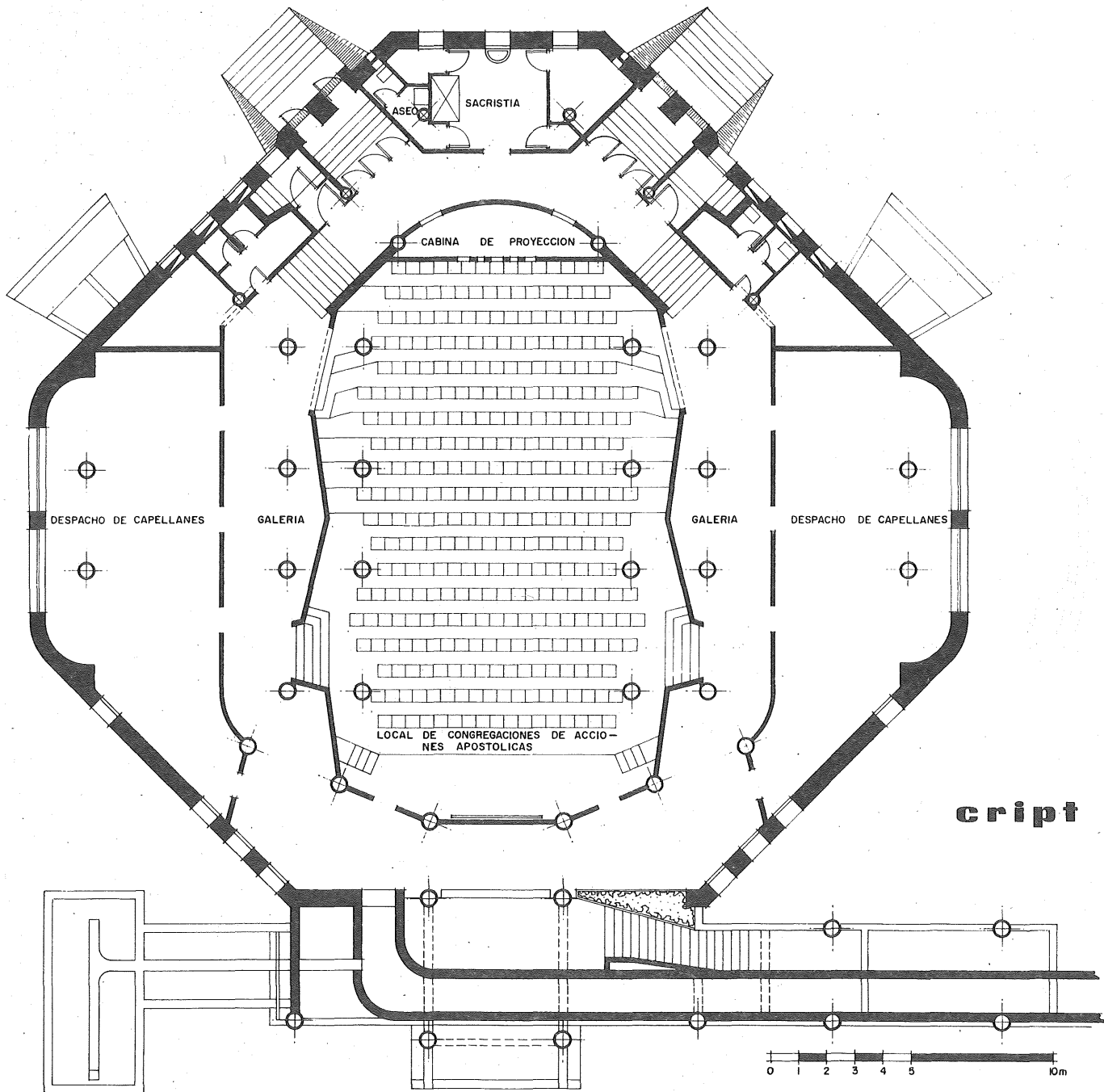
In each side of the nave there are three confessionals, what is the most appropriated disposition for the chapel of a college.

Close to the church is the choir place to 200 persons having access by two corbel stairs. Below the choir there are three entries to the chapel from the vestibule.

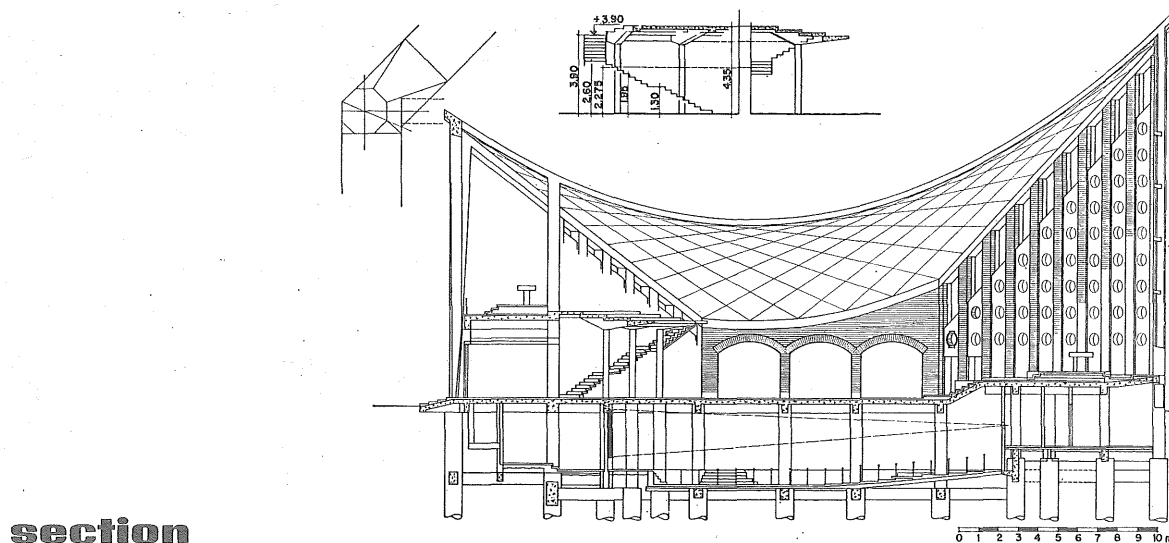
There also exist four doorways near the presbytery; and near them, two other doorways descending to the ground floor where places are reserved to keep the objects of the religious ceremonies, and also where is a place for a probable auxiliar sacristy.

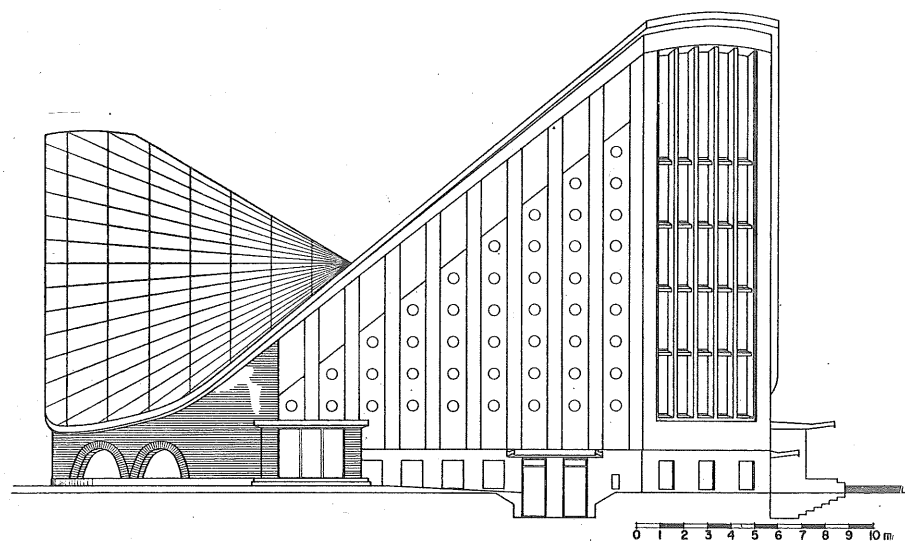
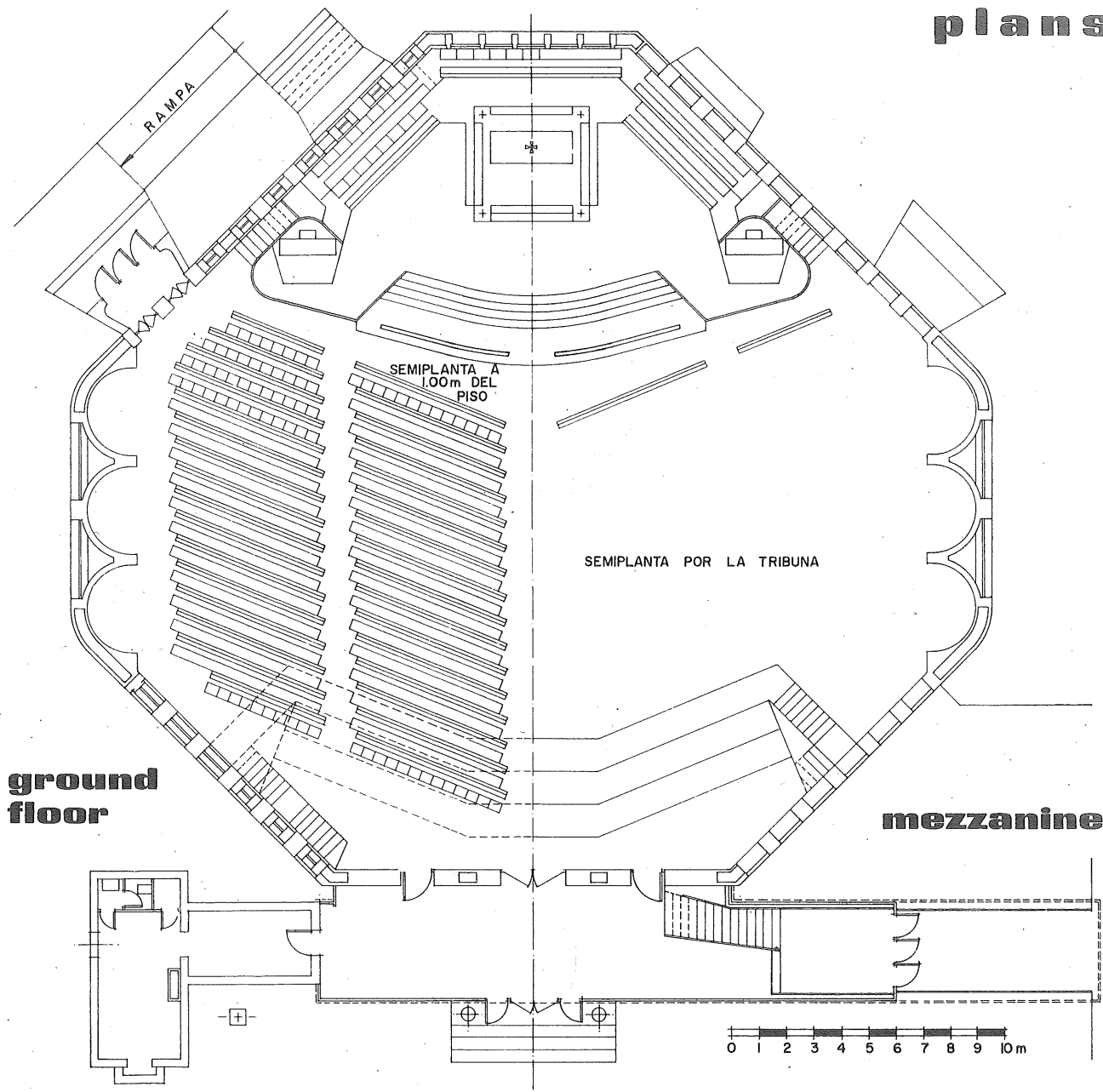






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In front of the vestibule, on the left side, is a reinforced concrete external spar, supporting the bells in its middle height and finished by a great cross.

Choir place is prolonged outside by a tribune, to celebrate mass in the open air, having its central part covered by the prolongation of the vault of the chapel.

Constructive characteristics: the vault is an hyperbolic paraboloid covering a surface of 743.71 m^2 ; one of its parts, that is 48.19 m^2 , sets apart the chapel to cover the external tribune, without continuity solution between both parts, because the large window separating them does not come up to the vault, as it is 7.5 cm under it.

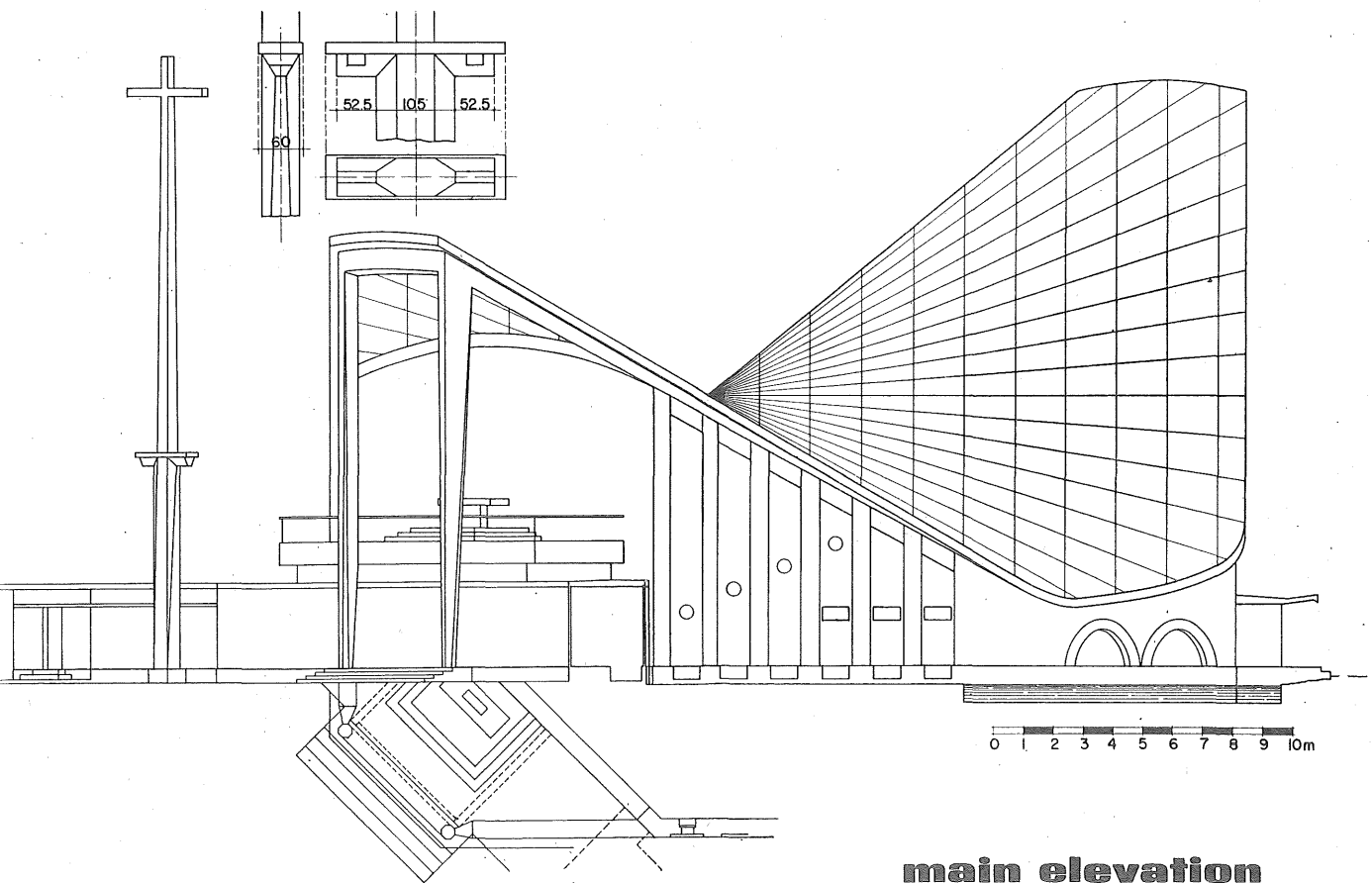
The total surface inside the chapel, included the six vaulted niches to confessionals, reaches 723.15 square meters.

The vault is 14 cm thick, and is formed by a layer of bricks kept up with gypsum, a cement mortar coat which envelops the traction bars, and by two layers of bricks with cement mortar.

It was constructed supported by planks with 60 cm of intervals which actuated as rectilinear generating line. When the first layer was made, thin mortar coat was cast upon, and bars were placed on, without deforming, that is only laying on, and after they were anchored in trimmer arch. Afterwards mortar consistence was completed, and the two other layers were prepared. Center striking did not require any special precaution, as at the end it was observed that the vault was scarcely charged on planks and consequently, they were slightly loosed. This spontaneous semi-decentering was probably caused by any of the numerous changes of temperature which roughly succeeded on may 1964, during the construction of the vault and when center striking took place. However, it was not possible to have a clear conclusion about the causes of this effect.

First computation was got ready with the help of Manuel Casas who acted as building overseer, but the final computation was due to architect Luis García Amorena.

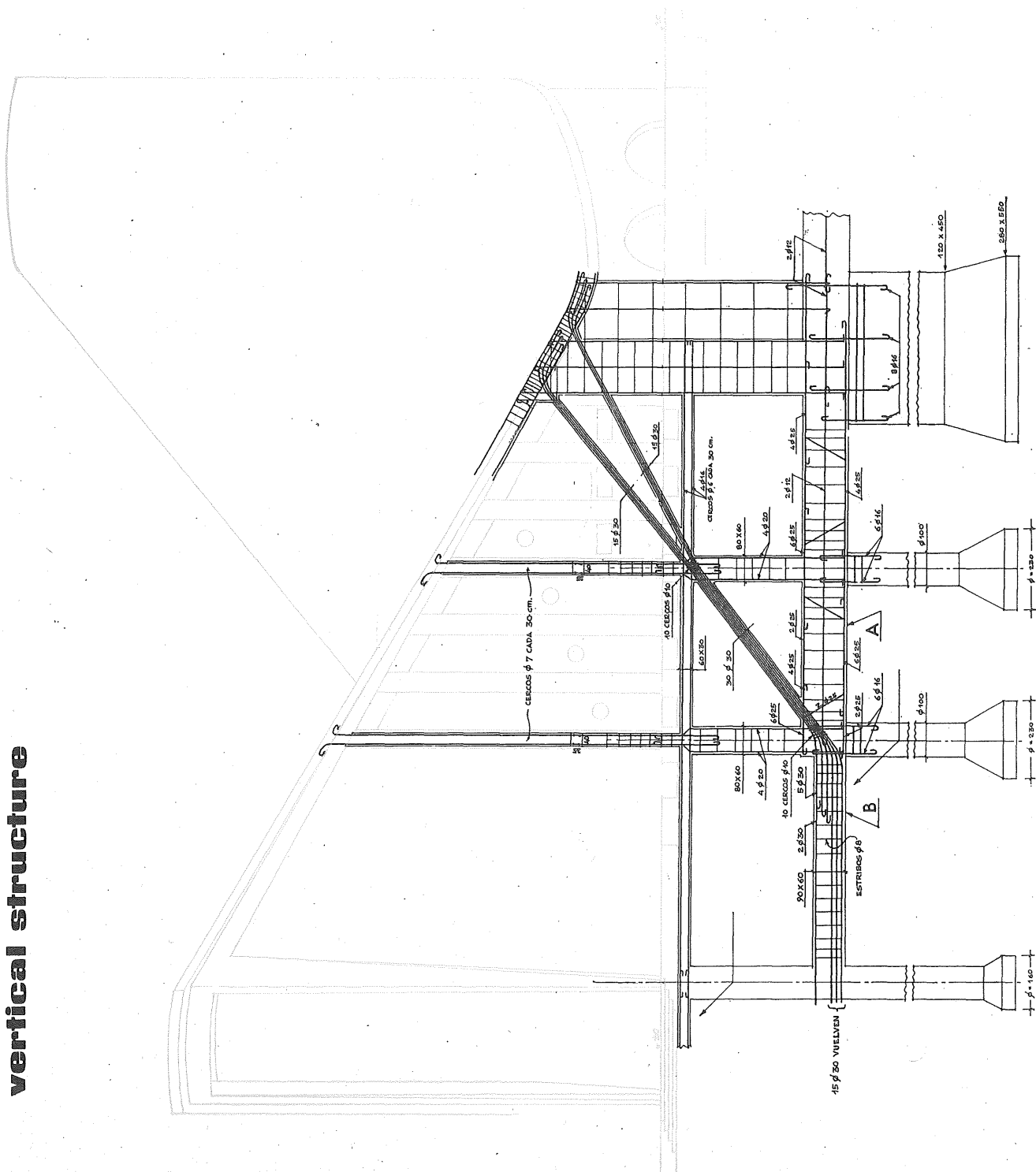
A problem which was carried out in a not useful way was the one about thrusts which were concentrated in lower parts of the four principal trimmers. It was not possible to shore them directly, as earth was not enough firm up to 16 m depth in some points.



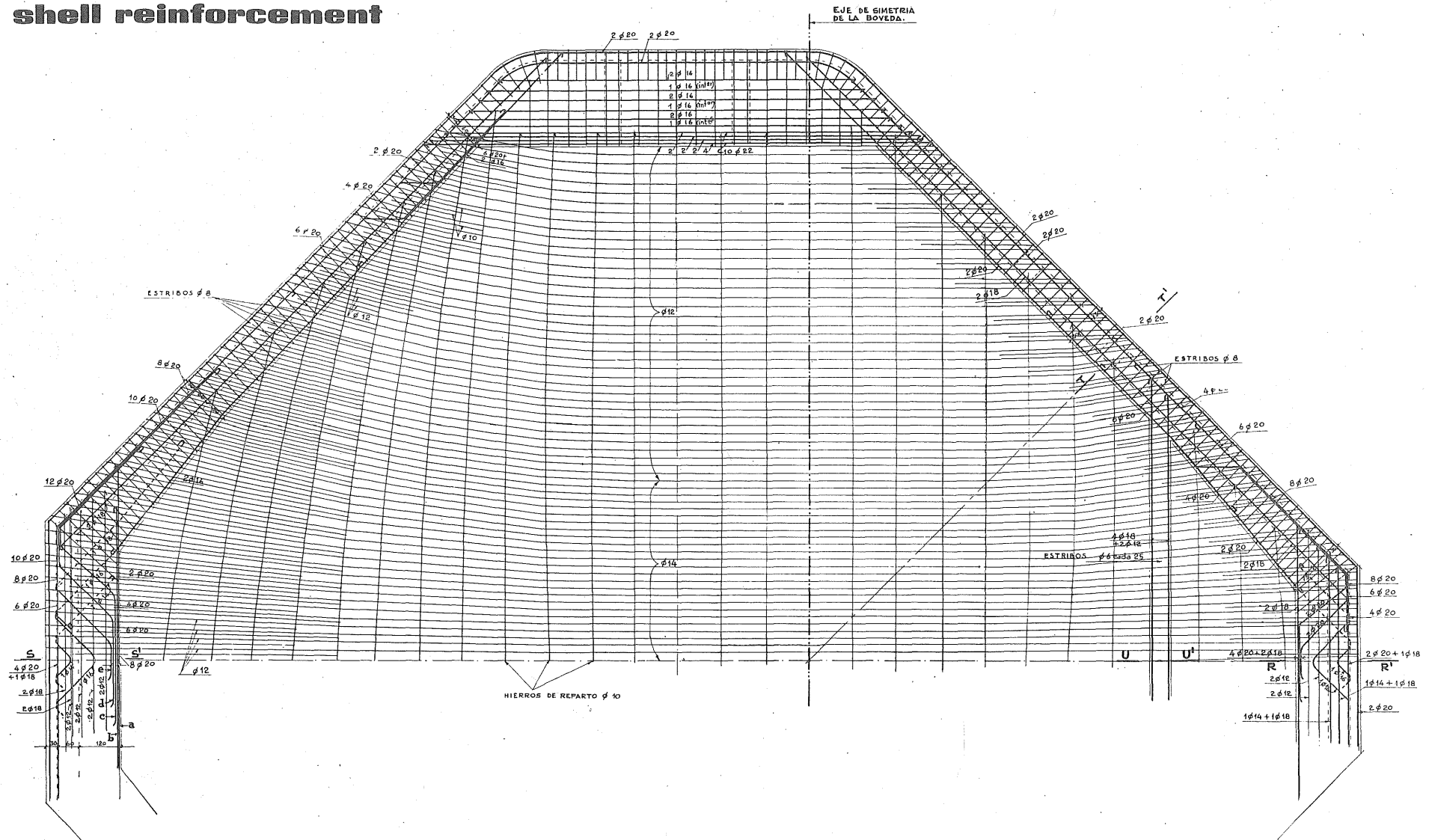
vertical structure

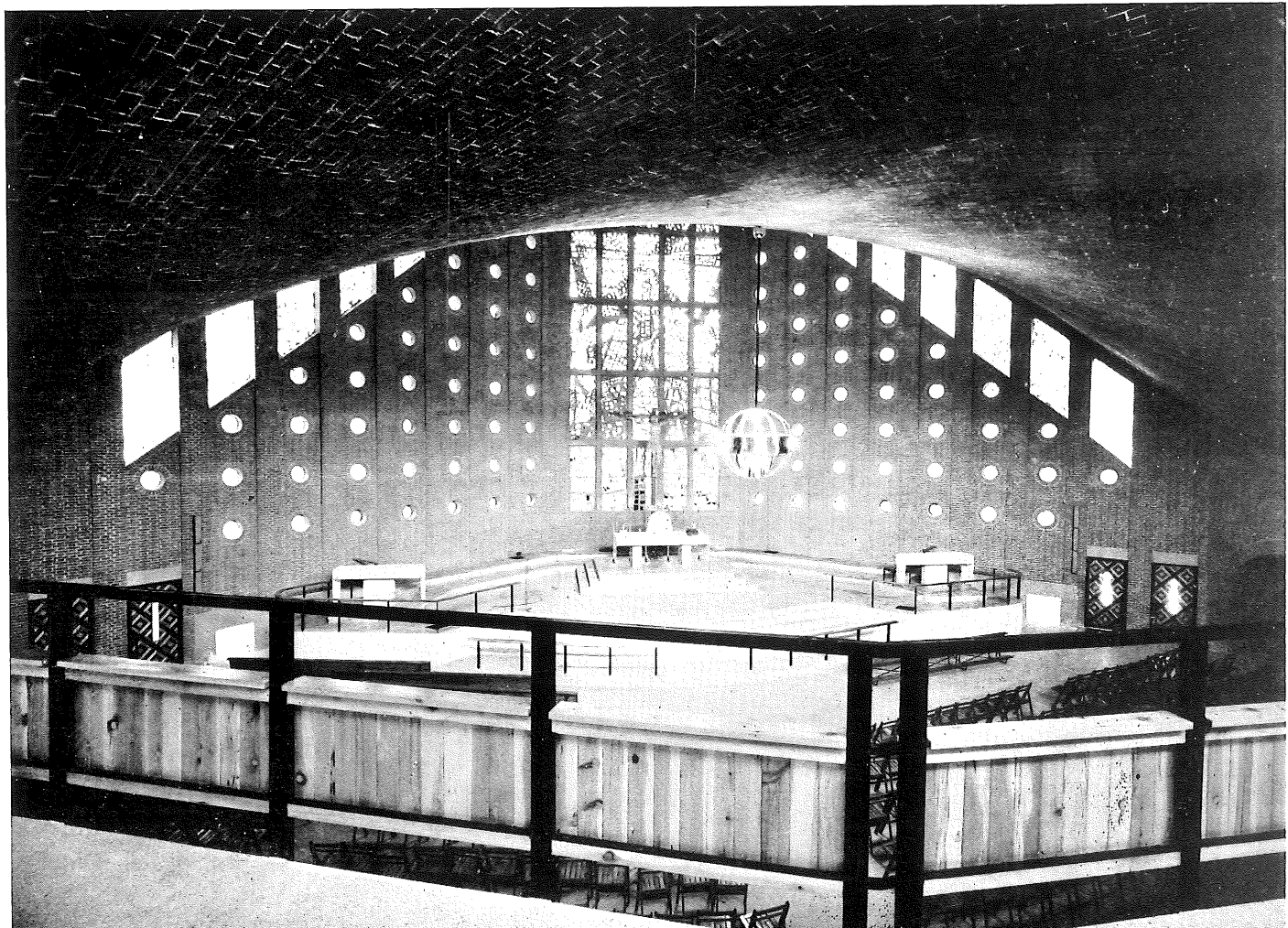
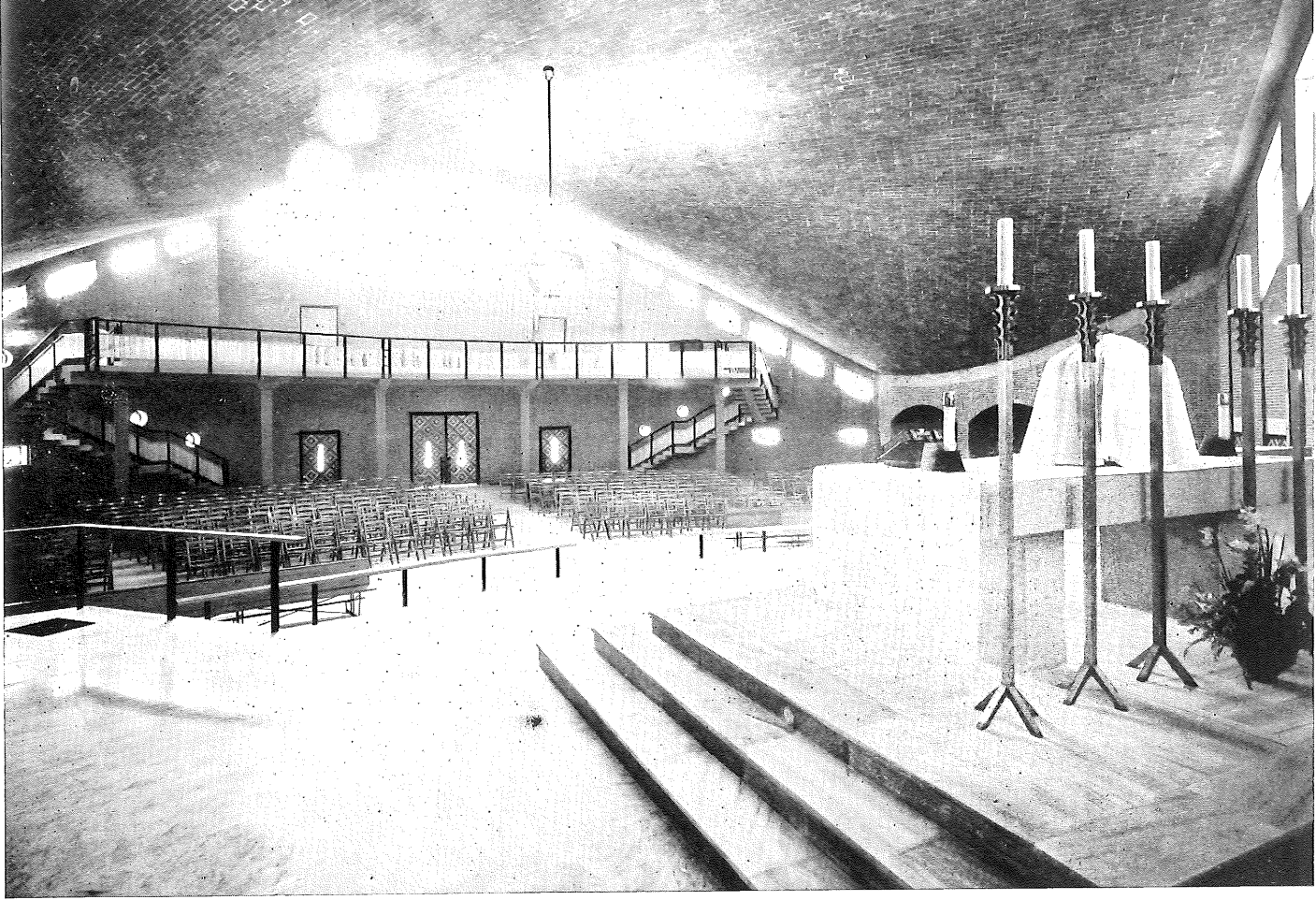


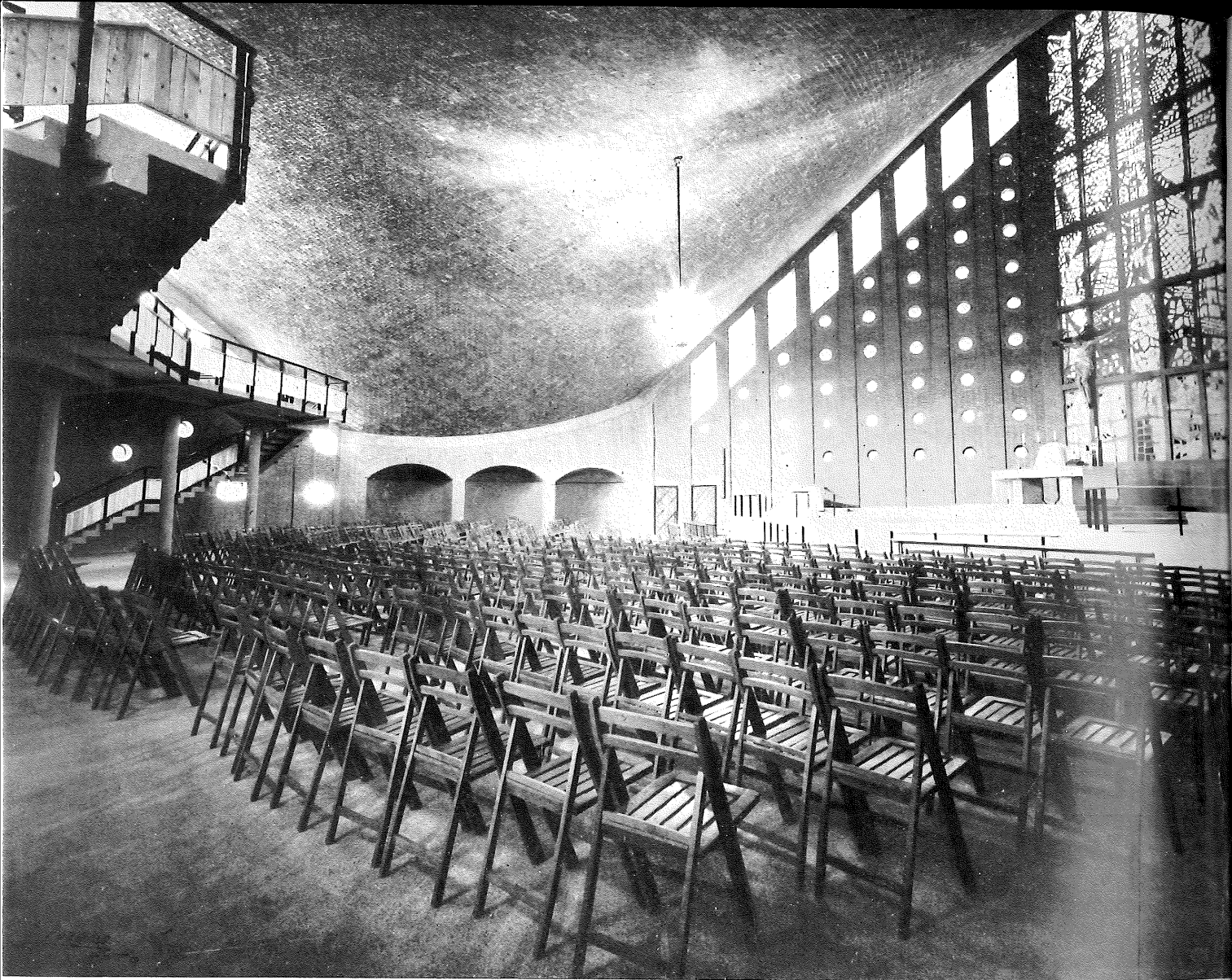
It was difficult to foresee the acoustical conditions, by lack of precedents in parabolical vaults constructed with bricks at sight. Walls have ceramical bricks, also at sight, and the floor is in terrazzo. The choir is principally constructed in reinforced concrete without rendering. They all are materials with a lower coefficient of absorption but the one of the large windows is smaller because it is constructed with blocks of glass, and also the one of alabaster of other windows. An important quantity of materials of absorption were foreseen but they



shell reinforcement







were not employed because the initial conditions without any furniture, were not so bad, and the actual conditions with some furniture, are better. Sometimes, a preacher normally speaking, well pronouncing, is well heard by all the contour. In any way, this is a question which will be again computed when the installation will be completely finished. Probably the difficulty of this vault consists in its excessive height at the presbiter, and consequently in its excessive volume produced by it. Perhaps, in future it would be sufficient to change the parameter of the equation at the vault, to obtain excellent results with little material of absorption, taking advantage of the longitudinal section of the vault which seems appropriated to a general minimum volume.